PROJECT facts

U.S. DEPARTMENT OF ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

Environmental and Water Resources

06/2001

COFIRING BIOMASS AT THE ALBRIGHT GENERATING STATION

PRIMARY PROJECT PARTNERS

Allegheny Energy Supply Co., LLC
Monroeville, Pennsylvania

U.S. Department of Energy, National Energy Technology Laboratory
Pittsburgh, Pennsylvania and Morgantown, West Virginia

Foster Wheeler Development Corporation
Clinton, New Jersey

Cofiring Alternatives
Ebensburg, Pennsylvania

MAIN SITE

Albright, West Virginia

DURATION

Start Date:
9/21/2000
Albright Project End Date:
9/30/01
Willow Island Project End Date:
7/20/03

DOE Funding from the Office of Energy Efficiency and Renewable Energy Biomass Power Program

Description

The Albright Demonstration will blend sawdust with coal and cofire this mixture into the Albright Generating Station Boiler #3.

The result of these tests, focusing upon NO_x reduction achieved by the sawdust cofiring, will be compared to results of a similar size and outfitted cyclone boiler at the Willow Island Generating Station. The Willow Island boiler is equipped with a Over Fire Air system and the Albright boiler #3 is a 140 megawatt tangentially-fired boiler also equipped with a separated overfire air system. Albright #3 will operate with a biomass fuel for a sufficient period of time (720 test hours) to determine the interrelationships between cofiring and a separated overfire air system in a PC boiler. Comparison of the performance of both boilers will provide valuable operating experience and validate the efficacy of cofiring opportunity fuels to reduce NO_x, SO_2, and fossil-based CO_2 emissions.

Cofiring Biomass at the Albright Generating Station

Goals

- The overall objective of the project is to complete the construction of the processing equipment and perform validation testing:
- Install two biomass injectors, with check valves,
- Install piping sufficient to transport sawdust to the biomass injectors
- Construct a pole barn to house the process equipment associated with the demonstration of separate injection cofiring
- Operate and maintain the cofiring system during the remaining elements of the validation testing

Benefits

This validation test will operate over a sufficient period of time - 720 test hours - to determine the interrelationships between cofiring and a SOFA system in a PC boiler by comparing results from Willow Island. Such relationships being tested will include the impact of the cofiring on NO_x, SO_2, and CO_2 emissions. The testing at the Albright boiler #3 will include detailed characteristics of the biomass fuel, characteristics associated with the handling and preparation of the fuel, and the emissions consequences associated with cofiring at a level comparable to that being tested at Willow Island.

CONTACT POINTS

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